COMPANY NAME : FLUID ANALYSIS LAB
CUSTOMER EQUIP NUM : JRP02828
COMPARTMENT NAME : ENGINE
SERIAL NUMBER : JRP02828
MANUFACTURER : CATERPILLAR
MODEL : 777F
JOB SITE :
EXT WARR NUMBER : CX545

SHOP JOB NUM :
COMP SERIAL NUM :
COMPARTMENT MODEL :
COMP MANUFACTURER :
SAMPLE LABEL NUM :
FLUID BRAND/WEIGHT :
FLUID TYPE :
EXT WARR EXPIRE DATE : 17-Jun-18
FUEL CONSUMED :

FAX:
PHONE:
SAMPLE TYPE: **OIL**
SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0219	05-Nov-2018	20-Nov-2018	0	0	Unknown			
Monitor Compartment	IRON LEVEL APPEARS HIGH. SILICON (TYPICALLY DIRT) LEVEL APPEARS HIGH. OTHER READINGS APPEAR TO BE NORMAL. CHECK AIR INDUCTION SYSTEM FOR POSSIBLE DIRT INGESTION. CHECK POSSIBLE SOURCES OF CONTAMINATION. CHANGE OIL/ INSTALL NEW FILTER(S) . RESAMPLE IN 125 HOURS TO MONITOR.							
D480-47051-0007	20-Feb-2017	20-Feb-2017		16022 HR	No			No
No Action Required	NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.							
D480-47058-0013	17-Feb-2017	27-Feb-2017	16066 HR		Yes			Yes
Action Required	INVESTIGATE SOURCE OF FUEL DILUTION. CHANGE OIL AND FILTER. IMMEDIATELY AFTERWARDS, BRING ENGINE UP TO OPERATING TEMPERATURE AND TAKE A BASELINE SAMPLE. RESAMPLE AT HALF THE NORMAL SAMPLE INTERVAL AFTER BASELINE TO VERIFY FUEL DILUTION NO LONGER EXISTS.							
D480-43248-0091	05-Sep-2013	05-Sep-2013	2370 HR	0	Unknown			
No Action Required	NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.							

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0219	3	77	1	9	1	1	24	6	0	41	26	0	0	3	1	1634	569	1273	987
D480-47051-0007	3	27	1	2	0	1	6	3	1		0	0				2052	12	1014	852
D480-47058-0013	3	31	1	3	1	2	8	3	1		1	0				2040	12	1013	841
D480-43248-0091	3	5	0	1	1	0	2	1	2		1	0				1011	156	704	571

Oil Condition / Particle Count (ct/ml)	ST	OXI	NIT	SUL	W	A	F	PFC	V100	PQI
D100-48324-0219	10	14	9	25	N	N	N	.6	12.4	80
D480-47051-0007	29	17	8	22	N	N	N	5.11	12.3	
D480-47058-0013	28	16	8	22	N	N	N	5.57	11.3	
D480-43248-0091	2	16	8	23	N	N	N		13.1	

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	RADIATOR	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:

PHONE:

SAMPLE TYPE: **COOLANT - RAD1_MET**

SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS
D100-48324-1025	05-Nov-2018	20-Nov-2018	0	0	No		

No Action Required

UNKNOWN EQUIPMENT OR FLUID HOURS. UNKNOWN FLUID TYPE. ALL TESTS APPEAR NORMAL FOR THIS COOLANT. SAMPLE AGAIN AT REGULAR INTERVAL TO MONITOR THE COOLING SYSTEM.

Data	Al	Cu	Fe	Pb	K	Na	Sn	Zn	CaC	MgC	TH	MoO4	SiO3	BO3	PO4	BP	FP	GL	pH	CON
D100-48324-1025	0	1	8	0	206	1531	0	1	2	4	8	7	63	963	228	108	-43	54	8.2	2440

Data	NO2	Odor	Color	App	Foam	Oil	PAmt
D100-48324-1025	1415	norm	magenta	clear	norm	none	none

Al = Aluminum, Cu = Copper, Fe = Iron, K = Potassium, Na = Sodium, Pb = Lead, Sn = Tin, V = Vanadium, Zn = Zinc, BO3 = Borate, CaC = Ca as CaCO3, MgC = Mg as CaCO3, MoO4 = Molybdate, PO4 = Phosphate, SiO3 = Silicate, TH = Total Hardness, CL = Chloride, CO3 = Carbonate, GLO = Glycolate, NO2 = Nitrite, NO3 = Nitrate, PO4 = Phosphate, SAC = Sebacic Acid, SO4 = Sulfate, TT = Tolytriazole, BP = Boil Point(°C), FP = Freeze Point(°C), GL = Glycol, CON = Conductivity, App = Appearance, PAmt = Precipitate Amount, PApp = Precipitate Appearance, PCol = Precipitate Color, PProp = Precipitate Property,CType = Coolant Type

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	TRANSMISSION POWER SHIFT	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0214	05-Nov-2018	20-Nov-2018	0	0	No			

Monitor Compartment — SILICON (TYPICALLY DIRT) LEVEL APPEARS HIGH. OTHER READINGS APPEAR TO BE NORMAL. INSPECT FOR SOURCE OF DIRT ENTRY INTO THE SYSTEM. CHECK POSSIBLE SOURCES OF CONTAMINATION. RESAMPLE IN 125 HOURS TO MONITOR.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0214	9	14	1	17	0	0	39	6	4	15	1	0	0	4	0	2163	68	1107	815

Oil Condition / Particle Count (ct/ml)	ST	OXI	NIT	SUL	W	A	V100	PQI	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ
D100-48324-0214	0	5	6	18	N	N	8.1	31	23/22/16	43750	22378	2301	460	257	185	14	6

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	HYDRAULIC SYSTEM	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 8

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0201	12-Nov-2018	20-Nov-2018	0	0	No			

Monitor Compartment — ISO PARTICLE COUNT READING EXCEEDS RECOMMENDED CLEANLINESS LEVEL. OTHER READINGS APPEAR TO BE NORMAL. CHECK POSSIBLE SOURCES OF CONTAMINATION. CONTINUE NORMALLY SCHEDULED SAMPLING.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0201	1	4	0	3	0	0	28	5	0	22	1	1	1	1	1	2004	307	1285	972

Oil Condition / Particle Count (c/ml)	ST	OXI	NIT	SUL	W	A	V100	PQI	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ
D100-48324-0201	0	5	6	19	N	N	8.8	35	23/22/18	51908	37586	9948	1312	650	489	92	37

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

RITCHIE EQUIPMENT, INC.
PAUL BARNETTE
P.O. BOX 1588
PRINCETON, WV 24740

FAX: 304-325-6525
PHONE: 304-325-6525

SAMPLE TYPE: **OIL**
SAMPLE SHIP TIME (days): 2

COMPANY NAME: RITCHIE EQUIPMENT, INC.
CUSTOMER EQUIP NUM: JRP02828
COMPARTMENT NAME: STEERING SYSTEM
SERIAL NUMBER: JRP02828
MANUFACTURER: CATERPILLAR
MODEL: 777F
JOB SITE:
EXT WARR NUMBER: CX545

SHOP JOB NUM:
COMP SERIAL NUM:
COMPARTMENT MODEL:
COMP MANUFACTURER:
SAMPLE LABEL NUM:
FLUID BRAND/WEIGHT:
FLUID TYPE:
EXT WARR EXPIRE DATE: 17-Jun-18
FUEL CONSUMED:

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Salem, VA 24153-5457
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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-49002-0506	31-Dec-2018	02-Jan-2019	0	0	No			

Monitor Compartment: ISO PARTICLE COUNT READING EXCEEDS RECOMMENDED CLEANLINESS LEVEL. SILICON (TYPICALLY DIRT) LEVEL APPEARS HIGH. OTHER READINGS APPEAR TO BE NORMAL. CHECK POSSIBLE SOURCES OF CONTAMINATION. CONTINUE NORMALLY SCHEDULED SAMPLING.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-49002-0506	8	12	1	15	1	0	34	2	3	12	1	0	0	4	0	1988	82	1009	844

Oil Condition / Particle Count (ct/ml)	ST	OXI	NIT	SUL	W	A	V100	PQI	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ
D100-49002-0506	0	5	6	18	N	N	8.2	3	23/21/15	42587	19050	1338	185	95	75	19	9

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	FINAL DRIVE REAR RIGHT	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0243	05-Nov-2018	20-Nov-2018	0	0	No			

Monitor Compartment

SAMPLE CONTAINS A MODERATE AMOUNT OF GRANULAR DEBRIS (B2). PQ IS AT CRITICAL LEVELS. OTHER READINGS APPEAR TO BE NORMAL. CHECK POSSIBLE SOURCES OF CONTAMINATION. SCREEN OIL FOR CUTTINGS. CHANGE OIL IN COMPARTMENT. RESAMPLE IN 125 HOURS TO MONITOR.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0243	31	222	2	2	3	3	10	8	0	45	1	1	0	0	0	829	4	323	359

Oil Condition / Particle Count (c/ml)	W	V100	PQI	ISO
D100-48324-0243	N	19.7	1337	DEB B2

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	FINAL DRIVE REAR LEFT	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: **OIL**
SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0244	05-Nov-2018	20-Nov-2018	0	0	No			

No Action Required

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0244	27	182	1	2	3	3	8	7	1	38	1	1	0	0	0	892	4	271	298

Oil Condition / Particle Count (c/ml)	W	V100	PQI	ISO
D100-48324-0244	N	19.8	149	NORMAL

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	DIFFERENTIAL	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: **OIL**
SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0246	05-Nov-2018	20-Nov-2018	0	0	Unknown			

No Action Required

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0246	35	241	2	2	3	3	12	9	1	52	1	2	0	0	0	927	5	360	396

Oil Condition / Particle Count (ct/ml)	W	V100	PQI	ISO
D100-48324-0246	N	18.7	167	NORMAL

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	WHEEL BEARINGS FRONT RIGHT	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 15

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0247	05-Nov-2018	20-Nov-2018	0	0	No			

Monitor Compartment

IRON LEVEL APPEARS HIGH. OTHER READINGS APPEAR TO BE NORMAL. CHECK POSSIBLE SOURCES OF CONTAMINATION. CHANGE OIL IN COMPARTMENT. RESAMPLE IN 125 HOURS TO MONITOR.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0247	2	399	2	2	0	1	44	9	0	47	1	1	0	0	0	293	4	168	264

Oil Condition / Particle Count (ct/ml)	W	V100	PQI	ISO
D100-48324-0247	N	19.3	81	NORMAL

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	WHEEL BEARINGS FRONT LEFT	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: **OIL**
SAMPLE SHIP TIME (days) : 19

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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0245	01-Nov-2018	20-Nov-2018	0	0	No			

No Action Required

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0245	1	163	1	9	0	0	48	8	0	5	1	0	0	1	0	1839	9	893	620

Oil Condition / Particle Count (ct/ml)	W	V100	PQI	ISO
D100-48324-0245	N	15.2	73	NORMAL

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

COMPANY NAME :	FLUID ANALYSIS LAB	SHOP JOB NUM :	
CUSTOMER EQUIP NUM :	JRP02828	COMP SERIAL NUM :	
COMPARTMENT NAME :	BRAKES	COMPARTMENT MODEL :	
SERIAL NUMBER :	JRP02828	COMP MANUFACTURER :	
MANUFACTURER :	CATERPILLAR	SAMPLE LABEL NUM :	
MODEL :	777F	FLUID BRAND/WEIGHT :	
JOB SITE :		FLUID TYPE :	
EXT WARR NUMBER :	CX545	EXT WARR EXPIRE DATE :	17-Jun-18
		FUEL CONSUMED :	

FAX:
PHONE:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 8

Fluids Analysis Laboratory
1330 Lynchburg Turnpike
Salem, VA 24153-5457
540-387-1111
www.cartermachinery.com

LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-48324-0218	12-Nov-2018	20-Nov-2018	0	0	No			

Monitor Compartment — ISO PARTICLE COUNT READING EXCEEDS RECOMMENDED CLEANLINESS LEVEL. NO COMPARTMENT SELECTE ON LABEL. APPEARS TO BE HYD COMPARTMENT. CHECK POSSIBLE SOURCES OF CONTAMINATION. CONTINUE NORMALLY SCHEDULED SAMPLING.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-48324-0218	14	27	5	31	1	0	50	7	7	26	2	0	0	4	0	2244	146	1124	824

Oil Condition / Particle Count (c/ml)	ST	OXI	NIT	SUL	W	A	V100	PQI	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ
D100-48324-0218	0	6	6	18	N	N	9.0	29	22/20/12	31285	5136	151	21	12	8	2	1

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulphur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index , NaW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator